

## Appendix G

### Examples of Public Health Mitigation Strategies

The following are examples of strategies for mitigating the impacts of industrial development on public health using the “social determinants of health” framework which have been implemented successfully elsewhere. This discussion is provided by BLM and NSB as a guide to measures which could be adapted for use in the North Slope. The measures included do not represent an exhaustive list. Instead, they are intended as pertinent examples of measures that might be successfully adapted to meet the needs of the affected North Slope communities, in order to mitigate impacts discussed in this IAP/EIS.

Economic and sociocultural conditions are among the most powerful drivers of health and health disparities, particularly in minority and indigenous communities. Internationally, this principle has become a central focus in industrial development and finance efforts. The following organizations have taken a leading role in advocating for a model of development planning which takes full account of the socioeconomic and health effects of development on indigenous and ethnic minority communities, and have published guidelines addressing these issues:

- The World Bank – Operational Policy 4.10, “Indigenous Peoples,” at <http://wbln0018.worldbank.org/Institutional/Manuals/OpManual.nsf/tocall/0F7D6F3F04DD70398525672C007D08ED?OpenDocument>
- The International Association of Oil and Gas Producers – “A Guide to Health Impact Assessments in the Oil and Gas Industry,” at [www.ipieca.org/downloads/health/hia/HIA.pdf](http://www.ipieca.org/downloads/health/hia/HIA.pdf)
- Royal Dutch/Shell Health, Safety, and Environment Panel – “Impact Assessment”
- The signatories to the Equator Principles, at [www.equator-principles.com/](http://www.equator-principles.com/)
- International Association of Impact Assessment – “Health Impact Assessment: International Best Practice Principles” <http://www.iaia.org/modx/assets/files/SP5.pdf>

The principles and measures outlined here could be adapted, through a process of community consultation, to meet the goals of a “Healthy Neighbors” plan, thus creating a comprehensive and effective strategy for long-term management of the sociocultural, economic, and public health changes discussed in this IAP/EIS.

#### 1. Infectious Disease Prevention:

##### *Examples/Precedents:*

- a. Shell Camisea<sup>1</sup>Project: Shell’s initial oil exploration program in the 1980s was heavily criticized in large part because of epidemics of infectious diseases that

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<sup>1</sup> May P, Dabbs A, et al (1999) Corporate Roles and Rewards in Promoting Sustainable Development: Lessons Learned from Camisea. Energy and Resources Group, U.C. Berkeley. Berkeley, CA. Accessed online on March 23, 2007 at <http://socrates.berkeley.edu/erg/documents/camisea.pdf>

occurred in the indigenous communities after contact with outside oil workers. As a result, Shell consulted with a highly qualified team of scientists and developed a number of interventions to prevent infections. Interventions used included:

- Construction of camps which were physically segregated from the indigenous communities.
- Strict controls on when and how employees were allowed to enter Native villages.
- A requirement for a “health passport,” in which employees were extensively vaccinated and routinely screened for communicable diseases.
- Roadless construction, to prevent entry to the communities by other outside groups or individuals; and strict monitoring and control of employee contact with the indigenous community.

- b. Chad-Cameroon Pipeline: a Health Impact Assessment of this project, done as a requirement for financing set out by the World Bank, revealed the potential that truckers from an area of high-prevalence HIV would trigger an epidemic of HIV in a region of low-prevalence HIV. An intervention involving a relay system, in which workers would drive within their own geographic regions, and relay trucks to drivers in the next region, was designed to prevent transmission.<sup>2</sup>
2. Interaction between outside workforce and local indigenous community:  
Recognizing that a large influx of outside workers into a small indigenous community may lead social and cultural conflict and tension (related to issues including acculturation, tensions between work and subsistence, intra-generational conflicts as children adopt modes of behavior and communication mirroring the outside society, and importation of drugs and alcohol), developers in other regions have developed protocols to control interaction between workers and the community. Measures include restricting entry by industry employees to local communities, building camps and facilities separate from communities, and banning or restricting the construction of roads into communities. See Shell’s Camisea project and the Chad-Cameroon Pipeline as examples.
3. Support of subsistence:  
Substantial impacts to subsistence – both harvest amounts and dietary intake – are possible under development scenarios resulting from leasing in the planning area. Subsistence foods constitute the primary protection against diabetes and metabolic syndromes (epidemic problems in other American Indian Tribes), food insecurity and hunger. Furthermore, subsistence activities form the foundations of cultural stability and therefore important protections against social pathology. Suitable “replacement foods” are not available: there is no nutritionally equivalent food available for purchase

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<sup>2</sup> Leonard L (2003) Possible illnesses: assessing the health impacts of the Chad Pipeline Project. Bulletin of the World Health Organization 2003; 81: 427-433. Accessed online on March 24, 2007 at [http://www.hiagateway.org.uk/media/hiadocs/HIA\\_Leonard.pdf](http://www.hiagateway.org.uk/media/hiadocs/HIA_Leonard.pdf).

Jobin, W (2003) Health and Equity Impacts of a large oil project in Africa. Bulletin of the World Health Organization. 81: 420-426

in local or regional stores. Furthermore, studies have documented the generally poor nutritional value of store-bought foods available in rural Alaskan villages.

*Examples/Precedents:*

A variety of programs have been used to support subsistence lifestyles and diets, and healthful alternate foods in northern indigenous communities facing the impacts of industrialization

- a. Hunter Support programs: in general, these programs provide financial support for hunters, in return for efforts to hunt for the community. Programs have taken many forms, including support for poor families to purchase gas and equipment, and financial compensation for time spent hunting for community members<sup>3</sup>
  - b. Community freezers: the construction of community freezers would facilitate storage of harvested resources for longer periods of time, allowing a more even supply of foods available to the community.
  - c. Work Schedule modifications: flexible work schedules, subsistence leave, and job-sharing options may facilitate continued active participation in subsistence while allowing communities to reap the benefits of employment opportunity.
4. Healthy Diet interventions:
- If development results in declining intake of subsistence foods (either because of impacts to the availability of resources, more difficult hunting conditions, or because of sociocultural change), North Slope communities will be at increased risk for diabetes, hypertension, hypercholesterolemia, and the resultant increases in cardiovascular and cerebrovascular diseases. The nutritional value of foods in northern village stores is generally quite poor, and people often chose “junk” foods such as chips, sweets, and soft drinks because of the relatively lower cost of these caloric sources. There are evidence-based measures which can support healthy dietary choices with regard to store-bought foods.

*Examples/Precedents*

- a. Johns Hopkins Healthy Stores Program: employs community-directed participatory research to identify barriers to healthy eating, and creates incentives for local stores to stock better food choices. This program has been extensively validated in several indigenous communities, and is currently being piloted with encouraging initial results in Nunavut, Canada.<sup>4</sup>
- b. Food Mail: the government of the Northwest Territories reduced the postage rate for “Nutritious Perishable Food” to encourage families to utilize regional sources of more nutritious store-bought foods.<sup>5</sup>

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<sup>3</sup> Chan H, Fediuk K et al. Food Security in Nunavut, Canada: Barriers and Recommendations. International Journal of Circumpolar Health. 65(5) 416-431

Aarluk Consulting Inc (2006) A consultation-based review of the harvester support programs of the Government of Nunavut and Nunavut Tunngavik Inc.

<sup>4</sup> Ho L, Gittelsohn S et al. Development of an integrated diabetes prevention program with First Nations in Canada. Health Promotion International 21(2) 88-97

<sup>5</sup> Indian and Northern Affairs Canada. Food Mail Program Brochure. Online at [http://www.ainc-inac.gc.ca/ps/nap/air/1brofoomai\\_e.html](http://www.ainc-inac.gc.ca/ps/nap/air/1brofoomai_e.html)

Indian and Northern Affairs Canada. Backgrounder: Food mail program. Online at [http://www.ainc-inac.gc.ca/nr/prs/s-d2001/01253bk\\_e.html](http://www.ainc-inac.gc.ca/nr/prs/s-d2001/01253bk_e.html)

5. Economic Sustainability and Sociocultural Impacts:

The “boom and bust” economic cycle (rapid and dramatic economic growth followed by economic depression) that may accompany natural resource development in indigenous communities can create large-scale social and cultural change, and worsen social pathology such as alcohol and substance abuse, domestic violence, and suicide.

*Examples/Precedents*

- a. Sakhalin II development: Indigenous Minorities Development Plan:  
A plan which assessed the likely socioeconomic effects of planned development on the local indigenous community, and developed and funded a mitigation package targeted at minimizing adverse social and economic outcomes, maximizing potential benefits, and promoting sustainable economic development. Based in part on World Bank OD 4.20 (an older version of OP 4.10). It provides a portfolio of interventions including:
  - Business training, start-up support for local businesses
  - Health services funding
  - Education support, including scholarships for professional training, stipends for low-income students
  - Financial support for cultural activities
  - Leadership capacity-building: training seminars, computer equipment
- b. Economic sustainability through “sustainable savings and investment programs”:  
for example, Canada’s National Roundtable on the Environment and Economy reviewed resource development in northern indigenous communities and recommended the creation of savings and investment programs specifically targeting long-term fiscal stability for the impacted communities, as well as equitable distribution of the economic benefits of development within the communities such that projects do not create or exacerbate “have and have-not” problems within indigenous communities.<sup>6</sup>
- c. Shell Camisea – development plan focused on sustainable development through building and supporting social capital:
  - In partnership with a regional NGO, developed a socio-economic assessment and plan for sustainable development.
  - Shell engaged the Smithsonian Institution’s Conservation Biology Institute to prepare a biodiversity assessment and monitoring plan, and committed resources to ongoing monitoring, which drove an adaptive management strategy.
  - Investment strategy: strengthen existing local organizations (e.g. ‘Mother’s Clubs’) which were able to fund and administer local projects.

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Lawn J, Harvey D (2001) Change in nutrition and food security in two Inuit communities, 1992-1997. Minister of Public Works and Government Services Canada. Ottawa, Canada.

<sup>6</sup> National Roundtable on the Environment and the Economy (2005). Aboriginal Communities and Non-renewable Resource Development. Online at [www.nrtee-trnee.ca/Publications/PDF/SOD\\_Aboriginal\\_E.pdf](http://www.nrtee-trnee.ca/Publications/PDF/SOD_Aboriginal_E.pdf)